

DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 6
(Chalk Creek)
September 2023

BOUNDARY DESCRIPTION

Duchesne and Summit counties - Boundary begins at I-84 and I-80 near Echo; northeast on I-80 to the Utah-Wyoming state line; southeast along this state line to SR-150; south on SR-150 to Pass Lake and the Weber River trail; west on this trail to Holiday Park and CR 2596 (Weber Canyon road); west on this road to SR-32; northwest on SR-32 to I-80 at Wanship; north on I-80 to I-84 near Echo

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP*

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
U.S Forest Service	0	-	33,719	11%	91	.1%
U.S. Bureau of Land Management	0	--	507	.2%	324	.4%
Utah School and Institutional Trust Lands Administration	0	--	363	.1%	259	.3%
Native American Trust Lands	0	--	0	0%	0	0%
Private	0	--	271,558	88.7%	71,612	96%
U.S. Department of Defense	0	--	0	0%	0	0%
USFWS Refuge	0	--	0	0%	0	0%
National Park Service	0	--	0	0%	0	0%
Utah Division of Parks and Recreation	0	--	0	0%	131	.2%
Utah Division of Wildlife Resources	0	--	0	15%	2,044	3%
TOTAL	0	--	306,147	100%	74,461	100%

UNIT MANAGEMENT GOALS

- Manage for a healthy population of animals capable of providing a broad range of recreational opportunities, including hunting and viewing.
- Balance deer herd impacts on human needs, such as private property rights, agricultural crops and local economies.
- Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size – Maintain a target population size of 12,000 wintering deer. This population objective remains for both the short-term (5-year life of this plan) and long term, barring significant changes in range conditions.

Unit 6

2013-2018 Objective:	10,500
2018-2020 Objective:	10,500
2020-2023 Objective:	12,000
2023-2028 Objective:	12,000

Change from last plan No change

Herd Composition – Manage for a postseason buck:doe ratio of 18-20:100 in accordance with the statewide plan.

POPULATION MANAGEMENT STRATEGIES

Monitoring

Population Size - Utilizing harvest data, postseason and spring classifications and GSP collar based mortality estimates, an analytical model will be used to estimate winter population size. Annual mortality will be estimated based on survival of radio-collared animals on a nearby representative unit.

Buck:Doer Ratios – Postseason classification will be conducted to monitor buck/doer ratios.

Harvest - The primary technique used to estimate harvest over the unit is the statewide uniform harvest surveys. Buck harvest strategies will be developed through the RAC and Wildlife Board process to achieve management objectives for buck:doer ratios. Antlerless harvest will be achieved, as needed, using a variety of methods and seasons to maintain a wintering population within objective and to address depredation conflicts.

Limiting Factors (May prevent the unit from achieving management objectives)

Crop Depredation - Address depredation issues as prescribed by state law and DWR policy. Some geographic populations may be maintained at lower levels than the range can support due to conflicts with crop production and private landscapes.

Habitat – Winter range condition is the major limiting factor on the Chalk Creek Unit. Winter and summer forage conditions, private land range availability and landowner acceptance will ultimately determine herd size. One factor that is potentially limiting is the increasing population and density of elk on the limited

winter range. Elk numbers continue to increase on the unit and occupy and dominate what was once mule deer winter range. Excessive habitat utilization will be addressed by antlerless harvest.

Predation – Predators will be managed according to the DWR Managing Predatory Species Policy (W1AG-4). Coyote removal through a bounty system is currently underway and future fawn:doe ratios will be used to determine if the removal was effective. This management strategy will be reevaluated in comparison to deer population metrics to determine if the Predator Management Plan strategy is still required. Cougar harvest will be managed according to 2023 Utah House Bill 469.

Highway Mortality - UDWR has been working closely with the Utah Department of Transportation to prevent WVC's (wildlife vehicle collisions) in this unit. Several areas have been previously identified as having high WVC's: the I-80 and SR-32 area (especially around Rockport Reservoir and the agricultural fields surrounding I-80 and the Weber River); the I-80 area around the Echo Junction and several miles to the north-east; and Hwy. 150. This agency cooperation has resulted the installation of 8' wildlife exclusion fences, the construction of wildlife escape ramps (along I-80), and the inclusion of wildlife paths under the I-80 Weber River bridge. In addition, a consultant firm completed a wildlife mortality study for UDOT for I-80 from Salt Lake City to Echo Junction. This study identified additional fencing, escape ramp, and wildlife passage needs throughout the I-80 corridor.

Illegal Take - Illegal take is not currently a significant source of mortality. Should illegal kill become an identified and significant source of mortality, an Action Plan will be developed in coordination with the Law Enforcement Section to develop specific preventive measures.

Disease - The impact that disease has on mule deer populations varies widely and can be challenging to assess. Diseases that may be found on the unit include bluetongue, epizootic hemorrhagic disease (EHD), and pneumonia. Chronic Wasting disease is of further concern although it has not yet been detected on the unit. Surveillance will continue to be implemented by testing hunter harvested animals as well as targeted surveillance of symptomatic animals.

Urban Deer - Continued development across this Unit has led to an increase in nuisance deer complaints. The Urban Deer Control Rule, R657-65, will be used to help municipalities address urban deer issues. Additional hunting opportunities outside of municipal boundaries will also be used to address nuisance complaints.

HABITAT

Habitat Description

The Chalk Creek Management Unit has an estimated 74,461 acres of winter habitat and 306,147 acres of summer habitat for mule deer range. The majority of the range is privately owned (96% of the winter range, 89% of summer range). Widespread private ownership leads to numerous management complications. Development and loss of habitat due to other land disturbances are some of the biggest concerns to mule deer winter range. The discovery, development, and removal of oil throughout the unit, especially the Chalk Creek area, has led to increased road densities and scattered housing developments. New agricultural projects on crucial winter range also continue to increase depredation problems and further decrease the available big game habitat. Because of the preponderance of private land and the establishment of Cooperative Wildlife Management Areas (CWMU's) access is severely restricted for public hunting on large areas.

The topography of the unit is influenced mainly by the Uinta Mountains to the east, with their drainages flowing through long, gradual slopes down into the Weber River Valley. Other major drainages include Crandall Canyon, Chalk Creek, Echo Canyon, Hixon Canyon, Pecks Canyon, and Grass Creek. The southern exposures of these canyons are especially important winter ranges. The rest of the winter range

is found in the low rolling foothills of the western and central areas of the unit. The upper limits of the winter range vary between approximately 6,800 and 7,200 feet.

Towns located in the valley along the Weber River include: Oakley, Peoa, Wanship, Hoytsville, and Coalville. Echo and Rockport Reservoirs, located on the west side of the unit on the Weber River, are both significant barriers to big game movement. Additionally, I-80 through Echo Canyon discourages big game movement and many deer deaths occur there during winter and spring.

Habitat Concerns

Mule deer habitat on the Chalk Creek Unit is divided between summer range and winter range. The summer range is mostly at higher elevations with the majority of the summer range being on private property. Due to the loss of habitat and the increasing number of elk on the unit, overuse on remaining winter range is a serious threat to the health and productivity of the winter browse species contained in the heavily utilized ranges.

Low elevation winter range is the major limiting factor for mule deer populations on the Chalk Creek Unit. The winter range areas are also those areas that are most at risk. Threats to mule deer habitat on the Chalk Creek Unit include the continued loss of acres and the reduction in habitat quality due to the loss of critical browse species (sagebrush, bitterbrush, etc). The loss of habitat can be attributed to different factors and may be specific to specific areas. One factor is the expansion of juniper across the winter range particularly from Echo south to Oakley. Other concerns are the direct loss of crucial winter range acres due to development and urbanization. Most home building is occurring on the foothills in what was historic deer winter range.

The increasing abundance of weedy annual grass species, and the increase of the exotic, weedy, perennial grass bulbous bluegrass are also contributing factors of sagebrush decline. These weedy species form dense mats of cover that compete with seedling and young sagebrush plants, which limits establishment of new sagebrush plants into the population. As the sagebrush population matures, decadence increases and density decreases as old plants begin to die. Annual grass species such as cheatgrass can also increase fuel loads and increase the chance of a catastrophic fire event.

Habitat Management

Loss of critical winter ranges to development is the highest cause of loss of mule deer habitat in the Chalk Creek unit. The habitat quality of the sagebrush and other browse species on the remaining winter range is important to protect.

To address the direct loss of habitat, efforts will be made towards the protection and conservation of remaining mule deer habitat. Efforts must be made to work with counties, cities, private landowners, nongovernmental organizations (NGO's), state and federal agencies to maintain and protect critical and existing winter range from future losses. Through existing partnerships and developing new conservation partners, efforts are being made to identify and prioritize critical habitat areas. Conservation easements will continue to be an important part of this effort. Other conservation efforts are ongoing throughout the unit.

To address habitat quality and degradation, habitat improvement projects have been and will continue to be planned throughout the unit. Habitat projects have been and are being done on UDWR Wildlife Management Areas, and private lands throughout the unit. The habitat projects are designed to address the specific issues within each project area. The major issues are Juniper encroachment and annual grass competition reducing the amount of browse species available to wintering wildlife. This in turn causes over-utilization of remaining browse, causing degeneration of existing plants. Recruitment of browse plants is also a concern due to annual grasses and over utilization by removing immature plants. Areas such as Crandall Canyon and the surrounding drainages are very dense in Juniper and are prime

areas for Juniper removal projects, utilizing chaining, lop and scatter, bullhog and other accepted methods for thinning and removing Juniper.

There has been an active effort to address many of the limitations on this unit through the Watershed Restoration Initiative (WRI). A total of 1,943 acres of land have been treated within the Chalk Creek unit since the WRI was implemented in 2004. An additional 114 acres are currently undergoing treatment projects, while 676 acres are proposed for additional projects. Treatments frequently overlap one another bringing the net total of completed treatment acres to 1,943 acres for this unit. Other treatments have occurred outside of the WRI through independent agencies and landowners, but the WRI comprises the majority of work done on deer winter ranges throughout the state of Utah.

The following are some of the areas that have been targeted for habitat projects within the unit over the next five years.

- Prescribed fire and mechanical treatments within the Bear River Watershed.
- Wet meadow habitat expansion where available.

PERMANENT RANGE TREND SUMMARIES

Purpose of Range Trend Studies

The ability to detect changes in vegetation composition (range trend) on big game winter ranges is an important part of the Division's big game management program. The health and vigor of big game populations are closely correlated to the quality and quantity of forage in key areas.

Statewide, the majority of the permanent range trend transects are located on deer and elk winter ranges. The range trend data resulting from these studies are used for habitat improvement and planning purposes.

Objective

Monitor, evaluate, and report range trend at designated key areas throughout the state, and inform Division biologists, public land managers, and private landowners of significant changes in plant community composition in these areas.

Expected Results and Benefits

Range trend transects are resurveyed every five years, and vegetation condition and trend assessments are made for key areas.

Summary and Excerpts of 2021 Chalk Creek Range Trend Results

Range Trend studies have been sampled within WMU 6 on a regular basis since 1984, with studies being added or suspended as was deemed necessary. Due to changes in sampling methodologies, only data collected following the 1992 sample year is included in this summary. Monitoring studies of WRI projects began in 2004, when possible; WRI monitoring studies are established prior to treatment and sampled on a regular basis following treatment. Due to the long-term nature of the studies, many of the Range Trend and WRI studies have had some sort of disturbance or treatment prior to or since study establishment.

The condition of deer winter range within the Chalk Creek management unit as a whole has generally remained fair since 1996. Of the few Range Trend sites in WMU 6, Spring Canyon (06-5) has remained in very poor condition since 1996 and suppresses the unit's mean habitat quality. Echo Canyon (06-2), Crandall Canyon (06-7), and Mahogany Hills Canyon (06-10) are the main drivers for the unit's condition as fair deer winter range. Additionally, these sites display a low amount of habitat conditional variability, and are consistently considered to be between fair and good winter habitat for mule deer. Due to the tendency for each site to remain in their evaluated winter conditions, there may be a certain implicit resistance to habitat improvement efforts. This suggests that any input to habitat improvement may be

more effective in efforts to maintain current wintering conditions while avoiding any irreversible community or ecological transitions.

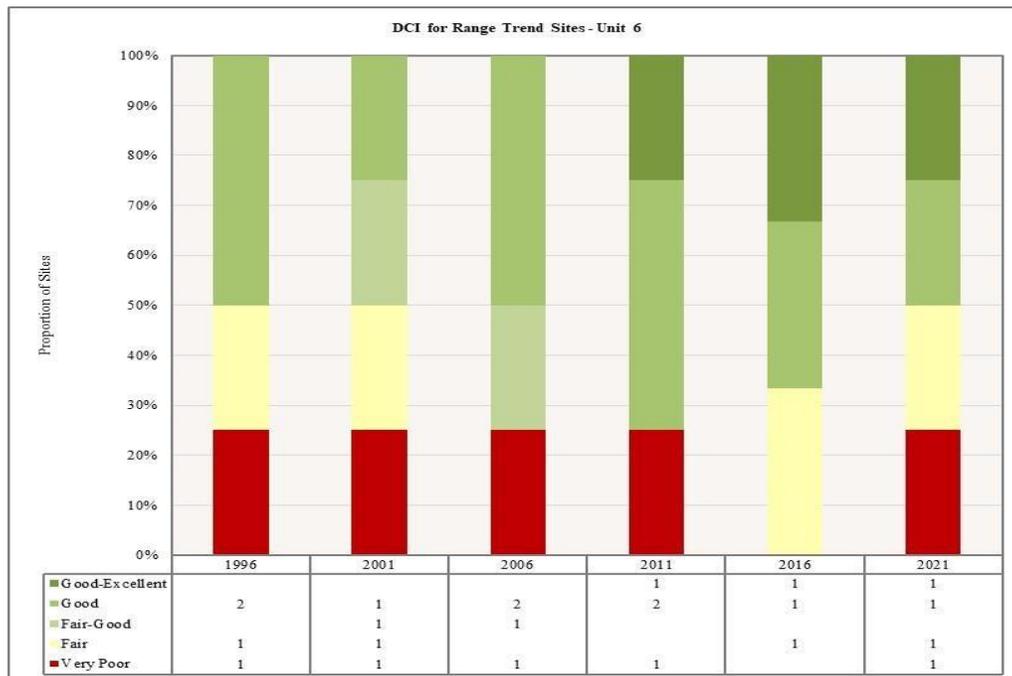
The overall deer winter range assessment in 2021 for WMU 6 was fair. Much of this can be attributed to the lack of preferred browse on the Spring Canyon site, which has been the case for the duration of the study.

Desirable Components Index:

The desirable components index (DCI) for deer was created as a tool to address condition and/or value of winter ranges for mule deer. This index was designed to score mule deer winter range based upon several important vegetation components (i.e., preferred browse cover, shrub decadence, shrub young recruitment, cover of perennial grasses, cover of perennial forbs, cover of annual grasses and cover of noxious weeds). Although the index may be useful for assessing habitat for other species (i.e. sage grouse and elk), the rating system was devised to specifically address mule deer winter range requirements.

This index is used primarily to determine if a particular site has the vegetation components necessary to be a good winter range for mule deer. It can also be used to identify areas where habitat restoration projects may be needed and assist land managers in determining possible rehabilitation options. Because it does not take into account factors such as soil stability, hydrologic function, and other environmental factors, it should not be used to assess a site’s function and/or condition as typically used by the federal land management agencies. Desirable mule deer winter range provides 12-20% of preferred browse cover, 20% or less shrub decadency, and 10% or more of the shrub population is young. The herbaceous understory contains 8-15% perennial grasses cover, 5% perennial forb cover, and less than 5% annual grass cover.

Deer winter range Desirable Components Index (DCI) summary by year of Range Trend sites for WMU 6, Chalk Creek.



More detailed information regarding Range Trend data, results, trends, tables and summaries can be found at the Utah’s Big Game Range trend Studies web site at <https://wildlife.utah.gov/range-trend.html>

Current Population Status

Year	Buck Harvest	Post-Season F:100 D	Post-Season Buck:100 D	Post-Season Population	Population Objective	% of Objective
2017	1078	70	27	13,600	10,500	129%
2018	1146	57	30	14,700	10,500	140%
2019	917	55	25	10,000	10,500	88%
2020	734	57	22	10,000	12,000	88%
2021	1051	72	25	11,250	12,000	94%

DURATION AND AUTHORITY OF PLAN

This unit management plan was approved by the Division Director in Sept. 2023 and will be in effect for five years, or until amended. Unit deer plan goals, objectives and strategies are constrained within the sideboards set in the statewide deer plan, which supersedes unit plans. It is possible that changes to the statewide deer plan may affect unit plans. Additionally, changes to Utah State Code and/or Administrative Rules may also affect deer unit plans.